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Outer Hills. These were shown to be ridges more or less parallel, separated by flat valleys, sometimes narrow sometimes wide, with the main lines of drainage cutting across, that is, through, the ridges. On the other hand, the Middle Mountains are ridges of varying, irregular, direction, that branch again and again, like the twigs of a tree; the chief ridges are at the same time the more important watersheds.

Looking from a geological point of view, we may say that there is not the same correspondence between the direction of the ridges and the strike of the beds as there is among the Outer Hills.*

The elevation of these Middle Mountains is sufficient to give a completely temperate character to the vegetation. Forests of Himalayan oak, of pine, spruce, silver fir, and of deodar, occupy a great part of the mountain slopes; the rest, the more sunny parts, where forest trees do not flourish, is, except where rocks jut out, well covered with herbage, with plants and flowers that resemble those of Central or Southern Europe.

Cultivation has been carried to almost every place where it is practicable. Wherever, within the altitude that limits the growth of crops, the slope of the ground has allowed of it, the land has been terraced, and narrow little fields have been made, these settlements sometimes being of extent enough to support a village, sometimes sustaining but one or two families.

Here, as in the Outer Hills, the tillage does not depend on irrigation, but on rain; these mountains, indeed, get the best of the Monsoon or rainy season; it is seldom that they suffer from drought, more often they suffer from an excess of downfall. Still the rainfall is not enough for the growth of rice; for this irrigation is wanted, but only in a few places can it be obtained; hence that crop is comparatively rare.

It is only in the very lowest parts of this region that two crops can be got from the same land. The times of growth of the two kinds of crop—of wheat or barley on the one hand, and of maize, rice, or millet, on the other—in most parts overlap each other to

* This contrast is noted, with regard to a similar tract farther east, by Mr. H. B. Medlicott, in 'Memoirs of the Geological Survey of India,' vol. ii., part 2, p. 6.

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243 an extent which varies with the height above the sea. Hence the wheat does not ripen till it is too late to sow maize or millet. But some land being reserved for the first kind of crop and some for the other, they have, in a sense, two harvests.

132 Snow falls over all the tract. In the lower parts it just falls and melts; but in most it stays for months, and in some as long as five months. It is this circumstance of duration of snow that causes great distinctions between the inhabitants and the customs of these hills and of the Outer Hills, some details of which will be found farther on.

The further account of the region can best be given by taking for examples and describing some of those parts which I am most acquainted with.

RAMNAGAR TO BHADARWĀH.

133X A march from Rāmnagar to Bhadarwāh, Kishtwār, and beyond, gave me an opportunity of seeing much of this mountain tract.

Near behind Rāmnagar, which itself is counted in the Outer Hill region, rises a bold ridge. This, which can be traced on the large map, is the first of the Middle Mountains.

The road or path over it—one not fit for horses—rose up a long spur that projected from the ridge, till we crossed this at a height of about 8000 feet. The range keeps at this elevation and continues straight for some 25 miles. On the south side it has a succession of such spurs as the one we came up; they first jut out from the ridge at a low angle, then, leaving a high shoulder, the slope becomes more sudden; lower down again it changes to various degrees of steepness, which allow of the ground being in places terraced for cultivation. Between every pair of the rounded spurs is a hollow or ravine, each the bed of a stream of no great volume, but perennially flowing.

133X 137 The surface of the ridge and of the spurs changes. Rocks here and there project; the less steep portions are covered with pasture when facing the south, and with forest on the sun-sheltered slopes; the forest may be of oak, with rhododendron and horse-chestnut among it, or, higher up, of deodar and pine.

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made difficult for the laden men, and then a more gradual slope along a spur, through a forest of the same sorts of conifers. The spruce and silver fir flourish most in the high parts, while lower down the deodar and *Pinus excelsa* are most numerous. The trees, as a rule, run to a height of 100, 120, and 150 feet; many are wonderfully straight. In the descent of several thousand feet such as we were now making the changes in all kinds of vegetation are very striking; first below the snow were great bunches of different sorts of primulas; these farther down gave way to other flowers of great variety; deciduous trees gradually became more frequent, and with their fresh spring colours among the dark foliage of the conifers gave new beauty to the forest.

BHADARWÂH.

When we had descended more than 5000 feet we reached the valley of Bhadarwâh. This is a nearly flat-bottomed valley, a mile in width; in length it extends thus open for about four miles, above and below narrowing so as to leave hardly any space between the hill-slopes. The hills which bound it are the ends of spurs from the forest ridges. Some of these spurs have bits of cultivated ground at different levels, and in some places we noticed traces of former cultivation—terraced ground overgrown with young pines, of twenty years' growth or more.

The valley-bottom has a slope of about 3°. The land is terraced to this fall in steps of a few feet each, so as to fit it to receive the irrigating water that here is plentiful enough to provide for a crop of rice. For this, in the month of May, the people were busily preparing, both by ploughing and breaking up the ground with a heavy kind of hoe or mattock. Men and women combined, in gangs of ten or a dozen, were working over the fields, shoulder to shoulder, striking in regular time, and beguiling the hours by singing as they worked a monotonous but not unpleasing chorus. The process that follows—and this, being lighter labour, has not the same accompaniment of song—is pounding the clods with what are exactly like croquet-mallets;

1₂ Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

243 after this a little rain is waited for, that the earth may crumble and become fit for watering and putting in the rice.

246 Among these mountains the months of winter, with snow deep on the ground, make it necessary for the peasant to lay in a good store of fodder for his cattle. Nowhere do the natives of India or the Himalayas seem to have learnt the advantages of making a large rick. Perhaps the holdings are too small, and co-operation in such a matter has not been arranged. In the neighbourhood we now are in they have two or three methods of storing the grass, which itself is plentiful on the slopes in summer. Sometimes they fix a series of poles upright in the ground in one line, and make a rough thatch over a ridge-pole at top, and then pile up the grass between and around the sticks. Another plan is to twist the grass into a loose rope and throw this over the forks of trees, where, hanging down, it is uninjured by the snow that falls, and is easily pulled off when wanted for use.

361 The town of Bhadarwāh is a busy, and, for such a hill country,
342 a comparatively large place. I estimate that there are 600 or 700 houses, and about 3000 inhabitants. It is built almost entirely of deodar wood; the frame-work of the houses is altogether of wood; only between the double plank walls the spaces are filled in with stones, sometimes laid loose and sometimes cemented with mud; most of the houses have a sloped shingle-roof. There is a curious plan of building up pillars for the corners, and sometimes for the middle supports, of the houses and the temples. Square slabs of wood a few inches thick are placed upright in pairs, one pair being surmounted by another at right angles, and so on alternately.

361 Bhadarwāh has an open market-place, a long straight street
[366] leading to the Fort, two or three other bazaars, two mosques, and a large temple. The waters of one of the streams come through the very middle of the town, and branches from it are brought through all the streets. Both in among the buildings and all round the place fruit-trees are growing—apple, pear, mulberry, apricot, and cherry, and there are poplars, and a few chinār or plane trees.